

Trend Study 16C-21-99

Study site name: North Horn Cap.

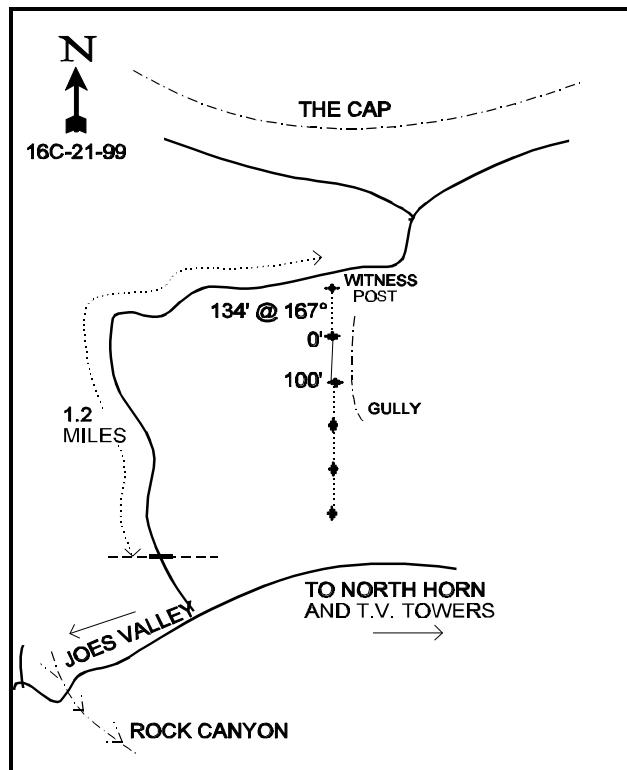
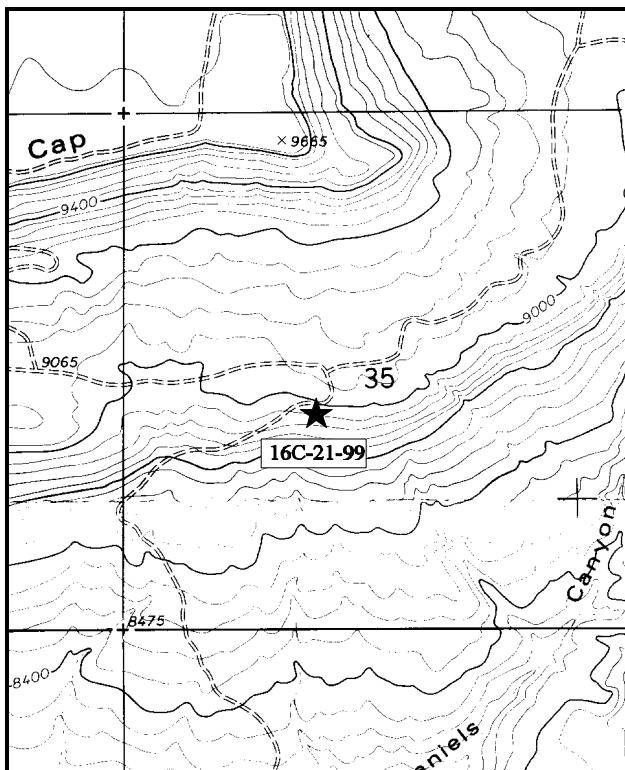
Range type: Mixed Mountain Brush.

Compass bearing: frequency baseline 180°M.

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

Starting on the southwest side of Joes Valley Reservoir, follow the main road up North Dragon Creek to a three-way fork at the upper end. Bear left and follow the main road about four miles to an intersection. From the intersection of the North Horn and South Horn roads, continue on the North Horn road towards the Emery County TV towers for 1.3 miles to a fork. Turn left towards The Cap and go 0.2 miles to a cattleguard. Continue up the dugway 1.2 miles to a witness post on the south side of the road. From the witness post, walk down the steep slope 134 feet (167°) to the start of the baseline. The 0-foot stake, a 2' metal fencepost, is marked by browse tag #9017.



Map Name: The Cap,

Township 18S, Range 6E, Section 35

Diagrammatic Sketch

UTM 4339979.552 N, 481141.809 E

DISCUSSION

Trend Study No. 16C-21 (31-19)

The North Horn Cap trend study is situated on a moderately steep, southern slope of The Cap of North Horn Mountain. Slope varies from almost 30% to 55%, the overall average would be about 40%. The site overlooks the gentle, chained slopes and sagebrush/grass valley below. Large contoured terraces traverse the entire length of The Cap. A contour trenching and seeding treatment was done by the Forest Service in the 1960's to curb serious soil erosion. The study site runs down slope crossing several terraces. It is classified as a mixed mountain brush range type. The site is on a slope that faces directly south. At 9,000 feet in elevation, the site is generally too high for normal deer winter range but is used by elk and some moose. Cattle graze the area as part of the Horn Mountain Allotment. Cattle use the slope only occasionally, as herbaceous forage for cattle is limited. The very steep character of the slope, which varies from 27% along the 1st 100 feet to 55% along the last 200 feet, has definite effects upon the vegetation and animal use of the site. Pellet group data from 1999 estimate 7 deer, 34 elk and 2 cow days use/acre (17 ddu/ha, 84 edu/ha, and 5 cdu/ha). Most of the pellet groups were found along the first 200 feet of the baseline where the slope is not as steep.

The steep slope has obvious and unavoidable negative affects on soil stability. There is continuous soil loss from the loose, bare spots with deep-cut gullies nearby. Accumulation of sediment is apparent in the generally well-vegetated and effective terraces. Seeded grasses are restricted to the terraces, and the native grass, Salina wildrye, has only limited value in holding the soil on the steeper areas between terraces. The soil has a clay texture with a slightly alkaline pH (7.7). Soil depth varies from fairly deep to moderately shallow, but effective rooting depth averages more than 20 inches. Both phosphorus and potassium are limited at 3.9 and 35.2 ppm. Values less than 10 ppm for phosphorus and 70 ppm for potassium are known to inhibit normal plant growth and development.

The key species for wintering big game on this site are Utah serviceberry and true mountain mahogany. These two shrubs accounted for 72% of the shrub cover in 1994 and 75% in 1999. Due to the greatly increased sample size more serviceberry was encountered in 1994 and 1999 than in 1988. These plants average 4 to 5 feet in height, are moderately to heavily hedged, and in good vigor. Many plants have grown tall enough to be partly unavailable to browsing. The true mountain mahogany population appears stable and average 2-3 feet tall. The population is becoming increasingly mature. They show continued heavy use since 1988. Vigor is good however, with percent decadence very low. Other species include, mountain big sagebrush, stickyleaf low rabbitbrush, broom snakeweed, Woods rose, and snowberry.

The herbaceous understory is abundant along the first 200 feet of the baseline, but as the slope steepens further down the baseline, herbaceous plants become more rare and bare ground abundant. The dominant understory species is Salina wildrye which provided 97% of the grass cover and 88% of the total herbaceous cover in 1994. Currently ('99) it accounts for 76% of the grass cover and 67% of the total herbaceous cover. This coarse, unpalatable bunchgrass did not appear to be utilized in 1994 or 1999. Forbs are uncommon and produce less than 2% total cover.

1994 TREND ASSESSMENT

Although litter cover has decreased by 60% (mostly because the baseline was lengthened), bare ground has remained similar to 1998 estimates. A majority of the vegetative cover is from browse with very little offered by forbs. Soil trend appears to be stable with little erosion apparent. Browse trend is stable. The large increase in the Utah serviceberry is due to increased sample size. True mountain mahogany has a stable population with good biotic potential although a slight increase in decadency. Herbaceous understory trend is down slightly. The dominant species, Salina wildrye, significantly decreased in its summed nested frequency. Summed nested frequency for grasses decreased while those of forbs increased slightly. All the forbs together make up only 4% of the total herbaceous cover.

TREND ASSESSMENT

soil - down slightly and in poor condition

browse - stable

herbaceous understory - stable, mostly Salina wildrye with very few forbs

1999 TEND ASSESSMENT

Trend for soil is slightly up, but still in poor condition with accelerated erosion occurring between contoured terraces. Percent bare ground has declined while litter cover has increased. In addition, sum of nested frequency for grasses and forbs has increased. Trend for the key browse species, serviceberry and true mountain mahogany, appear to be down slightly. Use is heavier, population densities have declined, and young recruitment is down on both species. Serviceberry is starting to grow tall enough to be partly unavailable to browsing. The proportion of plants displaying poor vigor has increased and percent decadence has gone up from 7% to 22%. Trend for the herbaceous understory is up slightly. Sum of nested frequency of perennial grasses has gone up slightly. However, sum of nested frequency for Salina wildrye, the dominant species, has remained similar to 1994. Forbs are still very limited, but sum of nested frequency has also increased slightly.

TREND ASSESSMENT

soil - slightly up, but still in poor condition

browse - down slightly

herbaceous understory - up slightly

HERBACEOUS TRENDS --

Herd unit 16C, Study no: 21

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'88	'94	'99	'88	'94	'99	'94	'99
G	Agropyron cristatum	a-	a-	b23	-	-	9	-	2.04
G	Agropyron intermedium	a-	a3	b24	-	1	9	.38	.14
G	Agropyron spicatum	-	3	15	-	2	6	.01	1.24
G	Carex spp.	3	-	7	1	-	3	-	.06
G	Elymus salina	b244	a183	a176	89	62	60	13.91	10.89
G	Poa fendleriana	-	-	2	-	-	1	-	.03
Total for Annual Grasses		0	0	0	0	0	0	0	0
Total for Perennial Grasses		247	189	247	90	65	88	14.30	14.42
Total for Grasses		247	189	247	90	65	88	14.30	14.42
F	Arenaria spp.	-	-	1	-	-	1	-	.00
F	Aster chilensis	a-	ab2	b16	-	1	5	.00	.45
F	Astragalus convallarius	-	3	-	-	1	-	.03	-
F	Astragalus megacarpus	-	2	3	-	2	2	.30	.04
F	Cymopterus spp.	a-	a-	b5	-	-	3	-	.01
F	Eriogonum umbellatum	-	1	4	-	1	2	.03	.01
F	Hedysarum boreale	-	-	-	-	-	-	-	.03
F	Helianthella uniflora	a-	b11	a-	-	5	-	.98	-

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'88	'94	'99	'88	'94	'99	'94	'99
F	Hymenoxys richardsonii	a-	a-	b4	-	-	3	-	.18
F	Lesquerella spp.	-	-	1	-	-	1	-	.03
F	Lomatium nuttallii	6	-	-	2	-	-	-	-
F	Machaeranthera grindeloides	-	-	2	-	-	2	.00	.06
F	Penstemon caespitosus	1	1	-	1	1	-	.00	-
F	Penstemon spp.	1	2	-	1	1	-	.03	-
F	Petradoria pumila	a-	a-	b13	-	-	7	-	.54
F	Phlox austromontana	2	5	5	1	2	4	.03	.21
F	Physaria chambersii	8	7	7	3	4	5	.04	.19
F	Schoencrambe linifolia	b7	a-	ab1	4	-	1	-	.00
F	Senecio multilobatus	-	-	4	-	-	1	-	.00
F	Unknown forb-perennial	2	-	3	1	-	1	-	.00
F	Zigadenus paniculatus	-	-	2	-	-	1	-	.00
Total for Annual Forbs		0	0	0	0	0	0	0	0
Total for Perennial Forbs		27	34	71	13	18	39	1.46	1.79
Total for Forbs		27	34	71	13	18	39	1.46	1.79

Values with different subscript letters are significantly different at % = 0.10 (annuals excluded)

BROWSE TRENDS --

Herd unit 16C, Study no: 21

T y p e	Species	Strip Frequency		Average Cover %	
		'94	'99	'94	'99
B	Amelanchier utahensis	35	37	11.01	16.03
B	Artemisia frigida	0	0	-	-
B	Artemisia tridentata vaseyana	21	22	2.79	3.75
B	Cercocarpus montanus	45	36	7.94	7.24
B	Chrysothamnus viscidiflorus viscidiflorus	19	13	.54	.63
B	Eriogonum corymbosum	0	0	-	-
B	Gutierrezia sarothrae	4	10	.33	.09
B	Mahonia repens	0	2	-	.00
B	Pinus edulis	0	2	.15	-
B	Pinus flexilis	0	1	-	.63
B	Rosa woodsii	10	11	.52	.60
B	Sambucus cerulea	0	1	-	.74
B	Symphoricarpos oreophilus	27	32	2.96	1.05
B	Tetradymia canescens	0	3	-	.33
Total for Browse		161	170	26.26	31.12

CANOPY COVER --

Herd unit 16C, Study no: 21

Species	Percent Cover '99
Amelanchier utahensis	11
Pinus flexilis	2

BASIC COVER --

Herd unit 16C, Study no: 21

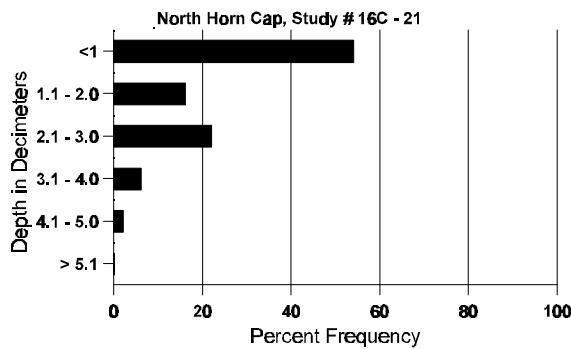
Cover Type	Nested Frequency		Average Cover %		
	'94	'99	'88	'94	'99
Vegetation	249	264	6.50	37.77	43.00
Rock	252	212	12.75	14.61	14.06
Pavement	184	215	1.50	1.68	7.17
Litter	341	343	47.75	19.15	37.26
Cryptogams	3	-	0	.00	0
Bare Ground	330	291	31.50	31.32	25.20

SOIL ANALYSIS DATA --

Herd Unit 16C, Study # 21, Study Name: North Horn Cap

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
20.6	51.2 (17.6)	7.7	29.1	25.1	45.8	1.9	3.9	35.2	0.4

Stoniness Index



PELLET GROUP DATA --

Herd unit 16C, Study no: 21

Type	Quadrat Frequency '84 '99		Pellet Transect Days Use/Acre (ha) '99
Rabbit	16 30		n/a
Moose	5 -		0
Elk	12 11		34 (84)
Deer	3 7		7 (17)
Cattle	- -		2 (5)

BROWSE CHARACTERISTICS --

Herd unit 16C, Study no: 21

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
<i>Amelanchier utahensis</i>																	
S	88	1	-	-	-	-	-	-	-	-	1	-	-	-	33		1
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	12	-	-	2	-	-	-	-	-	14	-	-	-	280		14
Y	88	-	1	-	-	-	-	-	-	-	1	-	-	-	33		1
	94	24	7	1	6	-	-	-	-	-	38	-	-	-	760		38
	99	7	2	6	-	1	-	-	-	-	16	-	-	-	320		16
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	94	20	53	15	-	-	3	-	-	-	90	-	-	1	1820	47 43	91
	99	-	2	10	-	1	10	15	-	-	38	-	-	-	760	57 65	38
D	88	-	-	1	-	-	-	-	-	-	1	-	-	-	33		1
	94	6	1	3	-	-	-	-	-	-	3	-	-	7	200		10
	99	-	1	5	-	-	6	3	-	-	7	-	-	8	300		15
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	180		9
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1
% Plants Showing		Moderate Use			Heavy Use			Poor Vigor			%Change						
	'88	50%			50%			00%			+98%						
	'94	44%			16%			06%			-50%						
	'99	10%			54%			12%									
Total Plants/Acre (excluding Dead & Seedlings)																	
											'88	66	Dec:	50%			
											'94	2780		7%			
											'99	1380		22%			
<i>Artemisia frigida</i>																	
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	4 9	0
% Plants Showing		Moderate Use			Heavy Use			Poor Vigor			%Change						
	'88	00%			00%			00%									
	'94	00%			00%			00%									
	'99	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)																	
											'88	0	Dec:	-			
											'94	0		-			
											'99	0		-			

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Artemisia tridentata vaseyana																	
S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	7	1	-	-	-	-	-	-	-	8	-	-	-	160		8
M	88	-	2	1	1	-	-	-	-	-	4	-	-	-	133	8 18	4
	94	24	13	1	-	-	-	-	-	-	38	-	-	-	760	20 26	38
	99	9	-	5	2	-	-	-	-	-	16	-	-	-	320	12 25	16
D	88	2	-	-	-	-	1	-	-	-	3	-	-	-	100		3
	94	6	-	-	2	-	-	-	-	-	2	-	-	6	160		8
	99	2	-	5	-	-	-	-	-	-	3	-	-	4	140		7
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	320		16
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	180		9
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
	'88	29%				29%			00%							+75%	
	'94	28%				02%			13%							-33%	
	'99	03%				32%			13%								
Total Plants/Acre (excluding Dead & Seedlings)												'88	233	Dec:	43%		
												'94	920		17%		
												'99	620		23%		
Cercocarpus montanus																	
S	88	2	-	-	-	-	-	-	-	-	2	-	-	-	66		2
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	-	-	-	1	-	-	-	-	-	1	-	-	-	20		1
Y	88	4	2	18	-	-	-	-	-	-	24	-	-	-	800		24
	94	26	-	-	-	-	-	-	-	-	26	-	-	-	520		26
	99	3	4	-	-	-	-	-	-	-	7	-	-	-	140		7
M	88	3	1	16	-	-	-	-	-	-	20	-	-	-	666	39 45	20
	94	14	25	14	-	-	2	-	-	-	55	-	-	-	1100	29 36	55
	99	-	2	27	-	-	7	2	-	-	32	6	-	-	760	33 38	38
D	88	-	1	1	-	-	-	-	-	-	2	-	-	-	66		2
	94	1	-	9	-	-	-	-	-	-	3	-	-	7	200		10
	99	-	-	-	-	-	2	1	-	-	2	1	-	-	60		3
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	40		2
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
	'88	09%				76%			00%							+16%	
	'94	27%				27%			08%							-47%	
	'99	13%				75%			00%								
Total Plants/Acre (excluding Dead & Seedlings)												'88	1532	Dec:	4%		
												'94	1820		11%		
												'99	960		6%		

A	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
G	R	1	2	3	4	5	6	7	8	9	1	2	3	4			
<i>Chrysanthemum depressus</i>																	
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	8
% Plants Showing			<u>Moderate Use</u>		<u>Heavy Use</u>		<u>Poor Vigor</u>				<u>%Change</u>						
			'88	00%		00%		00%									
			'94	00%		00%		00%									
			'99	00%		00%		00%									
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-		
												'94	0		-		
												'99	0		-		
<i>Chrysanthemum viscidiflorus viscidiflorus</i>																	
Y	88	2	-	1	-	-	-	-	-	-	3	-	-	-	100		3
	94	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
M	88	10	1	-	-	-	-	-	-	-	11	-	-	-	366	7	9
	94	38	-	-	1	-	-	-	-	-	39	-	-	-	780	6	9
	99	17	-	-	1	-	-	-	-	-	18	-	-	-	380	10	11
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	1	-	-	1	-	-	-	-	-	2	-	-	-	40		2
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	320		16
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
% Plants Showing			<u>Moderate Use</u>		<u>Heavy Use</u>		<u>Poor Vigor</u>				<u>%Change</u>						
			'88	07%		07%		00%								+43%	
			'94	00%		00%		00%								-44%	
			'99	00%		00%		00%									
Total Plants/Acre (excluding Dead & Seedlings)												'88	466	Dec:	0%		
												'94	820		0%		
												'99	460		9%		

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Eriogonum corymbosum																	
S	88	1	-	-	-	-	-	-	-	-	1	-	-	-	33		1
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	88	1	-	-	-	-	-	-	-	-	1	-	-	-	33		1
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
M	88	1	2	-	-	-	-	-	-	-	3	-	-	-	100	9 13	3
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	- -	0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	- -	0
D	88	-	2	10	-	-	-	-	-	-	12	-	-	-	400		12
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
	'88	25%			63%			00%									
	'94	00%			00%			00%									
	'99	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)										'88	533	Dec:		75%			
										'94	0	0%		0%			
										'99	0	0%		0%			
Gutierrezia sarothrae																	
Y	88	5	-	-	-	-	-	-	-	-	5	-	-	-	166		5
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
M	88	11	-	-	-	-	-	-	-	-	11	-	-	-	366	5 6	11
	94	28	-	-	-	-	-	-	-	-	28	-	-	-	560	7 9	28
	99	22	-	-	-	-	-	-	-	-	22	-	-	-	440	7 9	22
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
	'88	00%			00%			00%			+ 5%						
	'94	00%			00%			00%			-21%						
	'99	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)										'88	532	Dec:		-			
										'94	560	-		-			
										'99	440	-		-			

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Mahonia repens																	
S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	11	-	-	-	-	-	-	-	-	11	-	-	-	220		11
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	3	0
	3	4	0														
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
		'88	00%		'94	00%		'99	00%								
Total Plants/Acre (excluding Dead & Seedlings)																	
											'88	0	Dec:	-			
											'94	0		-			
											'99	220		-			
Pinus edulis																	
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
		'88	00%		'94	00%		'99	00%								
Total Plants/Acre (excluding Dead & Seedlings)																	
											'88	0	Dec:	-			
											'94	0		-			
											'99	40		-			
Pinus flexilis																	
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	99	-	-	-	-	-	-	-	-	-	1	-	-	-	20	-	1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
		'88	00%		'94	00%		'99	00%								
Total Plants/Acre (excluding Dead & Seedlings)																	
											'88	0	Dec:	-			
											'94	0		-			
											'99	20		-			

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Rosa woodsii																	
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	24	-	-	3	-	-	-	-	-	27	-	-	-	540		27
	99	70	-	-	-	-	-	-	-	-	70	-	-	-	1400		70
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	94	58	-	-	1	-	-	-	-	-	59	-	-	-	1180	9	59
	99	38	-	-	-	-	-	-	-	-	38	-	-	-	760	7	38
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
	'88	00%			00%			00%									
	'94	00%			00%			00%									+20%
	'99	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-		
												'94	1720		-		
												'99	2160		-		
Sambucus cerulea																	
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20	60	65
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
	'88	00%			00%			00%									
	'94	00%			00%			00%									
	'99	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-		
												'94	0		-		
												'99	20		-		
Symporicarpos oreophilus																	
Y	88	3	2	-	1	-	-	4	-	-	10	-	-	-	333		10
	94	23	-	-	3	-	-	-	-	-	26	-	-	-	520		26
	99	10	-	-	1	-	-	-	-	-	11	-	-	-	220		11
M	88	-	3	-	-	-	-	1	-	-	4	-	-	-	133	12	4
	94	52	7	-	5	-	-	-	-	-	64	-	-	-	1280	14	64
	99	31	2	-	5	-	-	5	-	-	43	-	-	-	860	16	43
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	3	-	-	-	-	-	-	-	-	2	-	-	1	60		3
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
	'88	36%			00%			00%									+75%
	'94	08%			00%			01%									-40%
	'99	04%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'88	466	Dec:	0%		
												'94	1860		3%		
												'99	1120		4%		

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total										
		1	2	3	4	5	6	7	8	9	1	2	3	4													
Tetradymia canescens																											
Y	88	5	-	1	-	-	-	-	-	-	6	-	-	-	200		6										
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2										
M	88	5	-	-	-	-	-	-	-	-	5	-	-	-	166	6 7	5										
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	6 9	0										
	99	8	-	-	-	-	-	-	-	-	8	-	-	-	160	8 12	8										
D	88	1	-	-	-	-	-	-	-	-	1	-	-	-	33		1										
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	99	-	-	-	-	-	1	-	-	-	-	-	-	-	1	20	1										
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>															
'88		00%			08%			00%																			
'94		00%			00%			00%																			
'99		00%			09%			09%																			
Total Plants/Acre (excluding Dead & Seedlings)												'88	399	Dec:	8%												
												'94	0		0%												
												'99	220		9%												